

## **II. REMARKS**

Claims 1-20 are pending in this application and are submitted for consideration. By this Amendment, claims 1-13 are withdrawn, and claims 1, 4, 5, 7, 9, 11, and 13-20 are amended. New claims 21-37 are added.

Support for the amendments is found in the specification and in the claims are originally filed. In particular, support for the amendments to claim 14 and 15 are found in the claims as originally filed and in the specification on page 18, lines 1-2. Support for the amendment to claim 18 is found in the claims as originally filed and in the specification on page 19, lines 17-18. Support for: new claims 21-22 is found in claim 1 as originally filed, new claim 23 is found in claim 2 as originally filed, new claims 24-28 is found in claim 4 as originally filed, new claim 29 is found in claim 10 as originally filed, new claims 30-31 is found in claim 11 as originally filed, new claim 32 is found in claim 12 as originally filed, new claims 33-35 is found in claim 13 as originally filed, new claim 36 is found in claim 15 as originally filed, new claim 37 is found in claim 16 as originally filed, and new claim 38 is found in claim 19 as originally filed. No new matter is added. Applicants respectfully request reconsideration and withdrawal of all rejections.

Claims 1, 4, 7, 13, 15, and 16 have been objected to. Applicants have removed the preferred subject matter in claims 1, 4, 7, 13, 15, and 16. As such, Applicants request reconsideration and withdrawal of the objection of claims 1, 4, 7, 13, 15, and 16.

Claims 14-20 have been rejected under 35 U.S.C. § 101 and 35 U.S.C. §112, second paragraph, for reciting the “use” of dioxole-containing fluoropolymers and “failing to particularly point out and distinctly claim the subject matter.” Claims 1, 16, and 19 have been rejected under 35 U.S.C. §112, second paragraph, for the use of a

trademarked term. Applicants have amended the claims and request reconsideration and withdrawal of the rejections under 35 U.S.C. § 101 and 35 U.S.C. §112, second paragraph.

Claims 14-20 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending U.S. Patent Application Serial No. 10/835,288 to Arcella *et al.* Applicants submit a terminal disclaimer signed by Pierre Joris, Managing Director of assignee Solvay Solexis S.p.A., and request withdrawal of the double patenting rejection.

Claim 14 has been rejected under 35 U.S.C. § 102(b) or, in the alternative, 35 U.S.C. § 103(a) over Navarrini *et al.* (U.S. Patent No. 5,646,223, or U.S. Patent No. 5,495,028, or EP 633257). Applicants traverse the rejection.

Claim 14 of the presently claimed invention is directed to a “method of preparing coatings wherein amorphous fluorinated polymers and copolymers of perfluorodioxoles” of formula (IA) are used, wherein the fluorinated polymers and copolymers have “a dioxole content  $\geq$  95% by moles, having the following combination of properties: Tg... from 180°C to 195°C[, and] intrinsic viscosity, measured at the temperature of 30°C in perfluoroheptane according to the ASTM D 2857-87 method, from 13 cc/g to 100 cc/g” (present claim 14) (emphasis added).

In contrast, Navarrini *et al.* discloses thermoprocessable tetrafluoroethylene copolymers constituted of the following monomers: a) from 0.5 to 13% by weight of perfluoromethylvinylether; b) from 0.05 to 3% by weight of one or more fluorinated dioxoles of formula... (XIII)...; and c) tetrafluoroethylene...” (Navarrini *et al.*, col. 4, lines 35-52) (emphasis added). Navarrini *et al.* discloses that the preferred percentage by

weight of total fluorodioxole or fluorodioxoles is 0.1 to 1.5% (Navarrini et al., col. 4, lines 52-55) (emphasis added), but that the copolymers can contain an amount of perfluorodioxoles from about 0.1 to 70% by moles and more (Navarrini et al., col. 9, lines 33-35) (emphasis added). However, Navarrini et al. merely discloses a copolymer in which “the glass transition temperature ( $T_g$ )... varies from 172° to 84°-92° C” (Navarrini et al., col. 3, lines 36-39) (emphasis added). Further, Examples 11, 12, and 15 of Navarrini et al. disclose copolymers with a molar percentage of dioxole of 22%, 32%, and 34%, and Examples 11, 12, 14, and 15 disclose copolymers with  $T_g$  of 74°C, 82°C, 162°C, and 33.5°C.

Applicants submit that Navarrini et al. does not teach or suggest the method of claim 14, as Navarrini et al. fails to disclose a polymer having a dioxole content  $\geq 95\%$  by moles, with a  $T_g$  from 180°C to 195°C, and an intrinsic viscosity from 13 cc/g to 100 cc/g” (present claim 14).

Further, comparative Example 8 of the present specification show that a polymer which has same  $T_g$  (162°C) as the polymer of Example 14 of Navarrini et al. has poor mechanical properties and an intrinsic viscosity of 8 cc/g, which is outside of the claimed 13 cc/g to 100 cc/g range (present claim 14).

For at least the above reasons, Applicants request reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. §102 or, in the alternative, under 35 U.S.C. §103(a) over Navarrini et al.

Claims 15-17 are rejected under 35 U.S.C. § 103(a) over Navarrini et al. in view of Grootaert (U.S. Patent No. 5,378,782) or Tortelli et al. (U.S. Patent No. 6,828,388). Applicants traverse the rejection.

Claims 15-17 are dependent claims which depend from claim 14. As discussed above, Applicants submit that Navarrini et al. does not teach or suggest the method of claim 14, and therefore does not teach or suggest the method of claims 15-17.

Applicants submit that neither Grootaert nor Tortelli et al. satisfy the deficiencies of Navarrini et al. Applicants submit that Grootaert merely discloses “fluorine-containing polymers [which] can be prepared by free-radical initiated polymerization of one or more fluorine-containing ethylenically unsaturated monomers” (Grootaert, col. 1, lines 50-54). Applicants submit that Tortelli et al. merely discloses “amorphous (per)fluorinated polymers containing cyclic perfluorinated structures” (Tortelli et al., col. 1, lines 9-11).

As Navarrini et al., Grootaert, and Tortelli et al. fail to teach or suggest all of the elements of the presently claimed invention, Applicants request reconsideration and withdrawal of the rejection of claims 15-17 under 35 U.S.C. § 103(a).

Claims 18-20 have been rejected under 35 U.S.C. § 103(a) over Navarrini et al., in view of Nemser et al. (U.S. Patent No. 5,051,114) or Bikson et al. (U.S. Patent No. 6,723,152). Applicants traverse the rejection.

Like claim 14, present claim 18 is directed to a method using amorphous fluorinated polymers and copolymers of perfluorodioxoles” of formula (IA), wherein the fluorinated polymers and copolymers have “a dioxole content  $\geq$  95% by moles, having the following combination of properties: T<sub>g</sub>... from 180°C to 195°C[, and] intrinsic viscosity, measured at the temperature of 30°C in perfluoroheptane according to the ASTM D 2857-87 method, from 13 cc/g to 100 cc/g” (present claim 18) (emphasis added).

As discussed above, Applicants submit that Navarrini et al. fails to teach or suggest a polymer having a dioxole content  $\geq 95\%$  by moles, with a Tg from 180°C to 195°C, and an intrinsic viscosity from 13 cc/g to 100 cc/g” (present claim 18).

Applicants submit that neither Nemser et al. nor Bikson et al. satisfy the deficiencies of Navarrini et al. Applicants submit that Nemser et al. merely discloses a “selectively permeable membrane for the separation of gaseous mixtures, said membranes being formed from an amorphous polymer of perfluoro-2,2- dimethyl-1,3-dioxole” (Nemser et al., col. 2, lines 19-23). Applicants submit that Bikson et al. merely discloses “improved gas separation membranes that are fabricated from blends of two or more perfluorinated polymers” (Bikson et al., col. 2, lines 30-31).

As Navarrini et al., Nemser et al, and Bikson et al. fail to teach or suggest all of the elements of the presently claimed invention, Applicants request reconsideration and withdrawal of the rejection of claims 18-20 under 35 U.S.C. § 103(a).


### **III. CONCLUSION**

Applicants respectfully submit that this application is in condition for allowance, and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event this response is not timely filed, the applicants hereby petition for an appropriate extension of time. The fee for this extension, along with any additional fees required with respect to this response, may be charged to Deposit Account No. 01-2300, referencing Attorney Docket No. **108910.00130**.

Respectfully submitted,

ARENT FOX PLLC



Richard J. Berman  
Registration No.: 39,107  
Direct Telephone No.: 202-857-6232

Customer No.: **004372**

1050 Connecticut Avenue, N.W.  
Washington, D.C. 20036-5339

Telephone No.: 202-857-6000  
Facsimile No.: 202-857-6395

Enclosures: Terminal Disclaimer  
One-month Petition for Extension of Time